Small Business Innovation Research/Small Business Tech Transfer

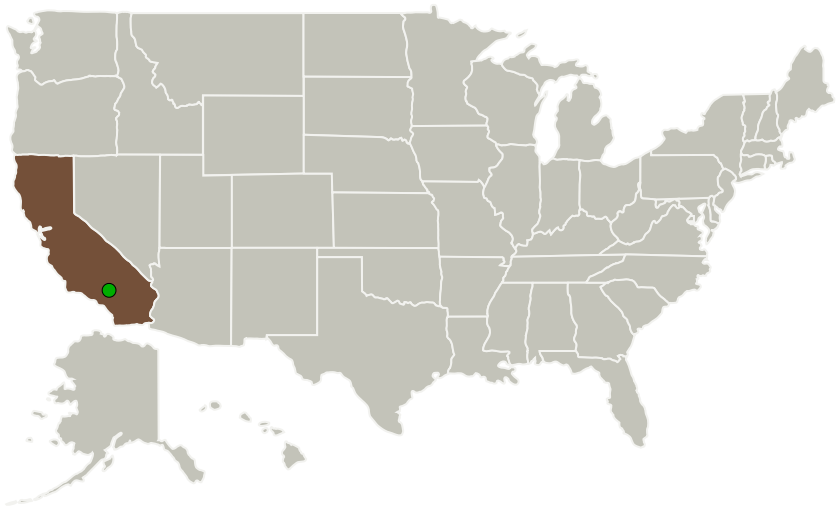
Low Energy Electronic Ignition System for NOFBX Thrusters, Phase II

Completed Technology Project (2013 - 2015)

Project Introduction

NOFBX propulsion technology is being developed actively for a number of applications including a flight experiment on the International Space Station NOFBX propellant has unique electrical properties that allow the potential for development of an extremely low energy ignition mechanism when coupled with the design of an NOFBX combustion chamber. This has the potential for dramatically reducing the volume, mass, voltage, and electromagnetic interference (EMI) emissions. The development we are proposing is a very low energy ignition system that utilizes the unique attributes of the NOFBXTM propellant that minimizes the volume, mass, and voltage of a block redundant system to be used in NOFBX propulsion systems.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Firestar Engineering, LLC	Lead Organization	Industry	Mojave, California
Armstrong Flight Research Center(AFRC)	Supporting Organization	NASA Center	Edwards, California

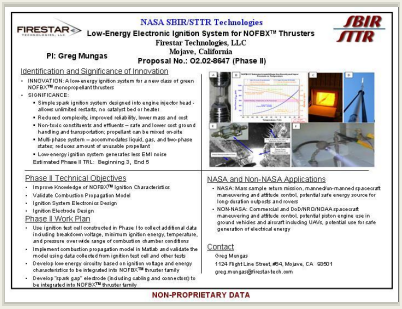


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Table of Contents

Small Business Innovation Research/Small Business Tech Transfer

Low Energy Electronic Ignition System for NOFBX Thrusters, Phase II

Completed Technology Project (2013 - 2015)

Primary U.S. Work Locations
California

Project Transitions

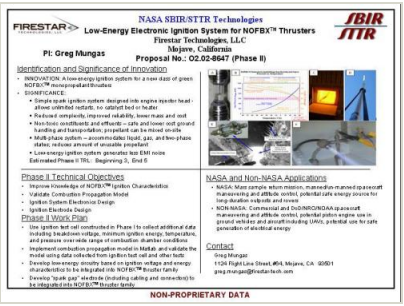
January 2013: Project Start

January 2015: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/137320)*

Images



Project Image
Low Energy Electronic Ignition System for NOFBX Thrusters *(https://techport.nasa.gov/image/128631)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Firestar Engineering, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Greg S Mungas

Co-Investigator:

Greg Mungas

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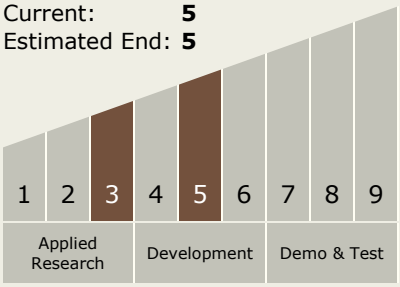
Technology Maturity (TRL)

Start: **3**
Current: **5**
Estimated End: **5**



Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.1 Chemical Space Propulsion
    - TX01.1.2 Earth Storable

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System